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09/740,540	12/18/2000	David Robinson	5181-59200	8380

7590

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EXAMINER	1
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ABEL JALIL, NEVEEN

ART UNIT	PAPER NUMBER
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2175

DATE MAILED: 12/04/2003

16

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/740,540

Applicant(s)

ROBINSON ET AL.

Examiner

Neveen Abel-Jalil

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 21-31, 34, 35 and 38-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-31, 34, 35 and 38-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_. 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. The amendment filed on September 22, 2003 has been received and entered. Claims 1-20, 32-33, and claims 36-37 are canceled. Claims 23-24, 27-29 and 34 are amended. Claims 38-45 are added. Therefore, claims 21-31, 34-35, and 38-45 are now pending.

#### ***Claim Objections***

2. Claim 34 is objected to because of the following informalities:

In line 1, the recitation "The system as recited in claim 20" is incorrect because claim 20 has been canceled. The Examiner fails to draw dependency assumptions.

Appropriate correction is required.

3. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claim 42 been renumbered 43.

Misnumbered claim 43 been renumbered 44.

Misnumbered claim 44 been renumbered 45.

#### ***Claim Rejections - 35 USC § 102***

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4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 21-22, 24-27, 29-31, 34-35, 38-42, and 44-45 are rejected under 35 U.S.C. 102(e) as being anticipated by Manczak et al. (U.S. Pub. No. 2002/0161855 A1).

As to claim 21, Manczak et al. discloses a data storage system comprising:

a first volume having a first storage volume characteristic (See page 6, paragraph 0047, also see page 4, paragraph 0040);

a second volume having a second storage volume characteristic (See page 6, paragraph 0047, also see page 4, paragraph 0040); and

a computing node coupled to said first volume and said second volume, wherein said computing node includes a file system for identifying a first file stored on said first volume and a second file stored on said second volume (See page 1, paragraphs 0006-0007, also see page 4, paragraphs 0034-0038);

wherein said file system includes a directory structure having a directory which includes a first entry corresponding to said first file and a second entry corresponding to said second file (See figures 6A-6C, also see pages 4-5, paragraphs 0040-0041).

As to claim 22, Manczak et al. discloses wherein said file system is configured to allocate space on said first volume in response to receiving a request specifying said first storage volume characteristic and said second volume in response to receiving a request specifying said second

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storage volume characteristic from a software application (See pages 3-4, paragraphs 0033-0035).

As to claim 24, Manczak et al. discloses wherein each one of said first volume and said second volume comprises a multiple storage device system (See page 1, paragraphs 0005-0006, also see page 2, paragraphs 0021-0023).

As to claim 25, Manczak et al. discloses wherein said multiple storage device system is a redundant array of inexpensive disks (RAID) storage system (See page 1, paragraphs 0009-0010).

As to claim 26, Manczak et al. discloses a method comprising:

storing a first file on a first volume having a first storage volume characteristic based on a first set of storage characteristics desired for said first file (See pages 3-4, paragraphs 0031-0034),

wherein said first file is located in a directory of a directory structure maintained by a file system (See page 1, paragraphs 0006-0007, also see figures 6A-6C, also see pages 4-5, paragraphs 0040-0041); and

storing a second file on a second volume having a second storage volume characteristic based on a second set of storage characteristics desired for said second file, wherein said second file is located in said directory (See pages 4-5, paragraphs 0038-0040, wherein "file is located"

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reads on “look-up”, and see page 3, paragraphs 0025-0031, wherein “storage characteristics” reads on “metadata”).

As to claim 27, Manczak et al. discloses wherein said method further comprises allocating space on said first volume in response to receiving a request specifying said first storage volume characteristic and said second volume in response to receiving a request specifying said second storage volume characteristic from a software application (See pages 3-4, paragraphs 0033-0040, wherein “volume characteristic” reads on “metadata”).

As to claim 29, Manczak et al. discloses wherein said first volume and said second volume are each a logical volume, wherein at least one of said logical volumes comprises a multiple storage device system (See page 1, paragraphs 0005-0006, also see page 2, paragraphs 0021-0023).

As to claim 30, Manczak et al. discloses wherein said multiple storage device system is a redundant array of inexpensive disks (RAID) storage system (See page 1, paragraphs 0009-0010).

As to claim 31, Manczak et al. discloses a computer memory containing a directory structure maintained by a file system having a first entry in a directory corresponding to a first file and a second entry in said directory corresponding to a second file (See page 1, paragraphs 0006-0007, also see page 3, paragraphs 0024-0026), wherein said first file is stored on a first

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volume having a first set of storage characteristics and said second file is stored on a second volume having a second set of storage characteristics (See page 4, paragraphs 0038-0040).

As to claim 34, Manczak et al. discloses wherein said entry includes another field containing an index number associated with metadata corresponding to said file (See figure 6C, also see page 5, paragraph 0041).

As to claim 35, Manczak et al. discloses wherein said first volume and said second volume each specify a set of methods for manipulating said metadata and for allocating data blocks (See page 4, paragraphs 0034-0035, also see page 1, paragraph 0003, also see page 3, paragraph 0032).

As to claim 38, Manczak et al. discloses wherein said first entry and said second entry each include a field containing a volume identifier indicative of which of said first or said second volumes said corresponding file is stored within (See figures 6A-6D).

As to claim 39, Manczak et al. discloses wherein said first entry and said second entry each include a field containing a volume identifier indicative of which of said first or said second volumes said corresponding file is stored within (See figures 6A-6D, also see page 4, paragraphs 0038-0040).

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As to claim 40, Manczak et al. discloses a computer readable medium (See page 1, paragraph 0002) comprising instructions for operating a file system which identifies files stored by a first volume and a second volume, wherein said instructions are executable by a computing node to implement a method comprising:

storing a first file on a first volume having a first storage volume characteristic based on a first set of storage characteristics desired for said first file (See pages 3-4, paragraphs 0031-0034), wherein said first file is located in a directory of a directory structure maintained by a file system (See page 1, paragraphs 0006-0007, also see figures 6A-6C, also see pages 4-5, paragraphs 0040-0041); and

storing a second file on a second volume having a second storage volume characteristic based on a second set of storage characteristics desired for said second file, wherein said second file is located in said directory (See pages 4-5, paragraphs 0038-0040, wherein “file is located” reads on “look-up”, and see page 3, paragraphs 0025-0031, wherein “storage characteristics” reads on “metadata”).

As to claim 41, Manczak et al. discloses wherein said method further comprises allocating space on said first volume in response to receiving a request specifying said first storage volume characteristic and said second volume in response to receiving a request specifying said second storage volume characteristic from a software application (See pages 3-4, paragraphs 0033-0035).



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As to claim 42, Manczak et al. discloses wherein said first entry and said second entry each include a field containing a volume identifier indicative of which of said first or said second volumes said corresponding file is stored within (See figures 6A-6D).

As to claim 44, Manczak et al. discloses wherein one of said first volume and said second volume comprises a multiple storage device system (See page 1, paragraphs 0005-0006, also see page 2, paragraphs 0021-0023).

As to claim 45, Manczak et al. discloses wherein said multiple storage device system is a redundant array of inexpensive disks (RAID) storage system (See page 1, paragraphs 0009-0010).

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 23, 28, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Manczak et al. (U.S. Pub. No. 2002/0161855 A1) in view of Sandstrom et al. (U.S. Patent No. 6,629,189 B1).

As to claims 23, 28, and 43, Sandstrom et al. discloses

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Manczak et al. does not teach wherein one of said first volume and said second volume comprises a single storage device.

Sandstrom et al. teaches wherein one of said first volume and said second volume comprises a single storage device (See abstract, also see column 2, lines 49-53).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have modified Manczak et al. to include wherein one of said first volume and said second volume comprises a single storage device.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have modified Manczak et al. by the teaching of Sandstrom et al. to include wherein one of said first volume and said second volume comprises a single storage device because one single storage device can hold one or more logical volumes to efficiently manage different data files types being stored and retrieved.

### ***Response to Arguments***

8. Applicant's arguments with respect to claims 21-31, 34-35, and 38-45 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Mutalik et al. (U.S. Patent No. 6,630,330 B1) teaches first and second physical volumes.

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Dunham (U.S. Patent No. 6,269,431 B1) teaches virtual storage and block level direct access of secondary storage for recovery of backup data.

Mukherjee et al. (U.S. Patent No. 6,556,998 B1) teaches real-time distributed file system.


10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Neveen Abel-Jalil whose telephone number is 703-305-8114.

The examiner can normally be reached on 8:00AM-4: 30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici can be reached on 703-305-3830. The fax phone number for the organization where this application or proceeding is assigned is 703-746-7239.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Neveen Abel-Jalil  
November 17, 2003

  
**CHARLES RONES**  
**PRIMARY EXAMINER**